

Network Interconnection Interoperability Forum  
(NIIF)

INTERCOMPANY RESPONSIBILITIES WITHIN THE  
TELECOMMUNICATIONS INDUSTRY

**JUNE 2001**

**ATIS/NIIF 0015 ISSUE 1.0**





**Notice**

This document was developed by the Alliance for Telecommunications Industry Solutions' (ATIS) sponsored Network Interconnection Interoperability Forum (NIIF). The NIIF provides an open forum to encourage the discussion and resolution, on a voluntary basis, of industry-wide issues associated with telecommunications network interconnection and interoperability which involve network architecture, management, testing and operations and facilitates the exchange of information concerning these topics. The NIIF is responsible for identifying and incorporating the necessary changes into this document. All changes to this document shall be made through the NIIF issue resolution process as set forth in the NIIF Principles and Procedures.

This document is maintained and exclusively distributed by ATIS on behalf of the NIIF.

**Disclaimer and Limitation of Liability**

The information provided in this document is directed solely to professionals who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering or other professional standards and applicable regulations. No recommendation as to products or vendors is made or should be implied.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE OR REGULATION, AND FURTHER NO REPRESENTATION OR WARRANTY IS MADE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. ATIS SHALL NOT BE LIABLE, BEYOND THE AMOUNT OF ANY SUM RECEIVED IN PAYMENT BY ATIS FOR THIS DOCUMENT, WITH RESPECT TO ANY CLAIM, AND IN NO EVENT SHALL ATIS BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. ATIS EXPRESSLY ADVISES THAT ANY AND ALL USE OF OR RELIANCE UPON THE INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

**Trademark Acknowledgments**

COMMON LANGUAGE<sup>®</sup> is a registered trademark of Telcordia Technologies

CLLI<sup>™</sup> Codes (Location Codes), CLEI<sup>™</sup> Codes (equipment Codes), CLCI<sup>™</sup>-SS Codes (Special Service Codes), CLCI<sup>™</sup>-MSG Codes (Message Circuit Codes), CLFI<sup>™</sup> Codes (Facility codes), NC/NCI<sup>™</sup> Codes (Network Channel, Network Channel Interface Codes) are trademarks of Telcordia Technologies.

Telcordia<sup>™</sup> Routing Administration (TRA) is a trademark of Telcordia Technologies, Inc.

Telcordia<sup>™</sup> LERG<sup>™</sup> Routing Guide and Telcordia<sup>™</sup> TPM<sup>™</sup> Data Source are registered trademarks of Telcordia Technologies, Inc.

Telcordia<sup>™</sup> Business Integrated Routing and Rating Database System (referred to as BIRRDs) is a registered trademark of Telcordia Technologies

**Copyright © 2001** by the Alliance for Telecommunications Industry Solutions Inc.  
All rights reserved.

The Network Interconnection Interoperability Forum, Intercompany Responsibilities Within the Telecommunications Industry, Issue 1.0, is copyrighted, printed and distributed by the Alliance for Telecommunications Industry Solutions (ATIS) on behalf of the ATIS-sponsored Network Interconnection Interoperability Forum (NIIF).

Except as expressly permitted, no part of this publication may be reproduced or distributed in any form, in an electronic retrieval system or otherwise, without the prior express written permission of ATIS. All requests to reproduce this document shall be in writing and sent to: NIIF Administrator c/o ATIS, 1200 G Street, NW, Suite 500, Washington, DC 20005. NIIF Participating Companies (as that term is defined in the NIIF Principles and Procedures Document) should refer to the NIIF Principles and Procedures, as respects their rights to reproduce this publication.

For document information, please contact:

NRRIC Administrator  
ATIS  
1200 G Street N.W., Suite 500  
Washington, DC 20005

(202) 628-6380  
niif@atis.org

For ordering information, please contact:

NIIF Administrator  
ATIS  
1200 G Street N.W., Suite 500  
Washington, DC 20005

(202) 628-6380  
niif@atis.org

Alternatively, this document may be obtained as a free download from the ATIS On-Line Document Center:

<https://www.atis.org/atis/docstore/index.asp>

This document can also be obtained as a free download from the ATIS/NIIF web site:

<http://www.atis.org/atis/clc/NIIF/Niifdocs.htm>

**TABLE OF CONTENTS**

**Introduction.....1**

    Purpose .....1

    Scope .....1

    Background/Overview of Processes .....1

    FCC 00-104.....2

**Interconnection Agreements .....3**

    Overview .....3

    Interconnection Relative to NXX Assignments.....3

    Reporting of Interconnection Arrangements .....3

**COMMON LANGUAGE Information Products .....5**

    Overview .....5

    ANSI T1.253-1996.....6

        Network Site Format .....6

        Network Entity Format.....6

**Company Codes / Operating Company Numbers (OCNs).....7**

    Overview .....7

    Company Codes.....7

    Operating Company Numbers (OCNs) .....8

**Administrative Operating Company Number (AOCN).....9**

    Overview .....9

    Becoming / Obtaining an AOCN:.....9

    AOCN Responsibilities .....9

    Process for Changing an AOCN .....10

    Consequences of not having an AOCN .....11

**Revenue Accounting Office (RAO) .....13**

    Overview .....13

    Uses of RAOs .....13

    Obtaining an RAO .....13

    Centralized Message Distribution System (CMDS).....14

**Central Office Code Guidelines (COCAG).....15**

    Overview .....15

    1. COCAG .....15

        Purpose and Scope - COCAG .....16

    2. COCAG - Part 1 .....16

    3. COCAG - Part 2 .....17

    4. COCAG - Part 3 .....17

    5. COCAG - Part 4 .....18

    6. Utilization/Forecast Reporting (NRUF) (Form 502).....18

**Local Number Portability .....19**

    Overview .....19

    LNP Relative to a New Local Service Provider .....19

    Location Routing Number (LRN).....20

**Thousands-Block Pooling .....23**

    Overview .....23

Part 1A	23
Part 1B	23
Part 3	23
Part 4	23
Months to Exhaust TN Level .....	23
Forecast Form.....	24
<b>NECA Tariff FCC No. 4.....</b>	<b>25</b>
Overview .....	25
Participation in NECA Tariff FCC No. 4 .....	25
<b>Industry Forums, Associations, General Industry Support.....</b>	<b>27</b>
Overview .....	27
Alliance for Telecommunications Industry Solutions (ATIS) ( <a href="http://www.atis.org">www.atis.org</a> ) .....	27
United States Telecom Association (USTA) ( <a href="http://www.usta.org">www.usta.org</a> ) .....	27
Cellular Telecommunications Industry Association (CTIA) ( <a href="http://www.wow-wow.com">www.wow-wow.com</a> ).....	28
PCS Carriers Industry Association (PCIA) .....	28
NARUC ( <a href="http://www.naruc.org">www.naruc.org</a> ) .....	28
Association for Local Telecommunications Services (ALTS).....	28
<b>Related Industry Guidelines .....</b>	<b>29</b>
Carrier Identification Codes (CIC) .....	29
555 Line Numbers .....	29
SS7 Point Codes .....	30
<b>Industry Training/Workshops.....</b>	<b>31</b>
COMMON LANGUAGE.....	31
NECA .....	31
TRA Workshop.....	31
<b>Telcordia Routing Administration (TRA) .....</b>	<b>33</b>
Overview .....	33
Data Collection .....	33
Data Dissemination .....	33
<b>Wireless .....</b>	<b>35</b>
Overview .....	35
Wireless vs. Wireline.....	36
Local Number Portability - Wireless .....	36
System Identification – SID .....	36
BiLLING Identification – BID.....	37
FCC Data on Wireless .....	37
Applying for a Cellular License .....	37
<b>Troubleshooting .....</b>	<b>39</b>
Overview .....	39
Call Completion Failure Situations (i.e., blocked calls) .....	39
Resolution processes:.....	40
<b>Attachments .....</b>	<b>43</b>
New NXX Requirements Checklist.....	44

# INTRODUCTION

## PURPOSE

This document is intended to serve as a reference for many of the steps and data flows involved with a company becoming integrated within certain aspects of the telecommunications industry.

It is primarily directed for use by telecommunications service providers (SPs) as a source for understanding interconnection processes, data requirements, and data exchange processes among carriers.

## SCOPE

This document has been designed to provide an overview of the various processes and procedures that a SP should acknowledge and understand. References are made to other sources where additional, more specific, information may be obtained. This document is not inclusive of all processes and procedures that may need to be followed. Variations and/or alternative processes to those documented herein may exist due to reasons such as interpretation issues, company-specific requirements, and regulatory variations (e.g., by state).

## BACKGROUND/OVERVIEW OF PROCESSES

As underscored by the issuance of the 1996 Telecommunications Act, there has been a rapid increase in the number of participants in the telecommunications industry over the past few years. The need to develop guidelines, provide information, and provide a means for efficient intercompany integration has become a major factor in maintaining an operable network. The Network Routing Resources Information Committee (NRRIC) determined the need for, and has prepared this document as an aid to new, as well as established providers.

In general, most SPs are involved in providing services to a “subscriber” (business or residence). These companies may own, lease, and/or resell various components of the network that support these services. Identification of these network elements and their interrelationships become increasingly important and complicated, as the number of providers and services increase. To support an understanding of these elements and associated processes, this document covers such topics as:

- **Interconnection Agreements** - Contractual agreements that must be established between the specific companies interfacing with each other within the network.
- **Certification to Provide Service** – Service Providers must obtain certification to provide a specific type of service from the State Public Utility Commission (FCC License for wireless service).
- **COMMON LANGUAGE** - Coding schemes to identify network components that include locations, facilities, circuits and equipment. For example, CLLI is an eleven-character location identifier assigned to network sites that contain telephony equipment, network switching, and facility interface points.
- **Company Codes / Operating Company Numbers (OCNs)** - Codes used to identify a company and track its data through various data exchange processes.
- **Administrative Operating Company Number (AOCN)** – A number used to identify the company responsible for data entry into certain databases used to exchange data among companies in the telecommunications industry.

- **Revenue Accounting Office (RAO)** – A three-character code used to process the routing of billing records, especially information that must be exchanged across different companies.
- **Central Office Code (NXX) Assignment Guidelines (COCAG)** – Industry developed guidelines that address assignment of Central Office Codes (COCs, a.k.a. prefixes). To provide local dialing services, SPs will usually need to obtain an NXX that is associated with each area (e.g., rate exchange area, rate center) in which they expect to provide service.
- **Local Number Portability (LNP)** – LNP permits telephone subscribers to retain their telephone numbers should they desire to change local SPs or their location within their Rate Exchange Area.
- **Thousands-Block Pooling** – A variation (via blocks of a thousand line numbers) in the assignment of Central Office Codes (NXXs) which requires the use of LNP technology.
- **NECA Tariff FCC No. 4** – The National Exchange Carrier Association (NECA) serves as agent for this Federal Communications Commission (FCC) tariff. This tariff contains local exchange carrier wire center and interconnection information that supports ordering, billing, and provisioning of interstate access services.
- **Industry Forums** – The telecommunications industry has numerous associations, groups, forums, and similar organizations. These groups may be industry-wide or specific to a given industry segment.
- **Related Industry Guidelines** – This section provides an overview and additional reference source(s) on the assignment and use of other codes and numbering resources that are beyond those uniquely addressed in other sections of this document.
- **Telcordia Routing Administration (TRA)** – Telcordia Routing Administration (TRA) is a telecommunications process that centrally collects and disseminates pertinent routing and rating information within the industry and to other parties who may request the data.
- **Wireless** – Wireless carriers include paging, cellular, Personal Communications Services (PCS), and mobile radio companies. The needs, processes, and regulations associated with wireless carriers are sometimes unique or different from those involving wireline-based carriers.

## FCC 00-104

FCC Order 00-104 (CC Docket No. 99-200), released March 31, 2000 is a Report and Order and Further Notice of Proposed Rulemaking that addresses FCC decisions, requests comments, and summarizes plans for various aspects of “numbering” (NXX assignments). This Order covers issues surrounding Thousands Block Pooling, number utilization tracking, definitions of numbering categories, and other numbering resource issues. The FCC issues such documents, as the case may dictate, to rule on and mandate processes involved with numbering and telecommunications in the U. S. and its territories.

## INTERCONNECTION AGREEMENTS

### OVERVIEW

For calls to originate and terminate within the Public Switched Telephone Network (PSTN), numerous companies must interface and must physically “interconnect” with each other. Interconnection is NOT automatic. Agreements must be established between ALL physically interconnecting companies.

In addition to agreements developed between companies that physically interconnect with each other, agreements are often needed with ALL other local exchange carriers to complete a local or toll call.

Companies entering the industry or a new service area need to be keenly aware of this. Companies already established in an area need to also be aware that, due to the ever-changing network and companies involved, interconnection agreements are not static.

Interconnection agreements are contracts that must be established. Depending on the type of interconnection involved, the specific companies involved, and other related factors, it is possible for agreements to take several months, and sometimes longer, to establish.

Specific requirements for interconnection agreements may also vary from company to company, for example, Access Service Request (ASR) and Service Inquiry/CSPS (wireless) processes.

### INTERCONNECTION RELATIVE TO NXX ASSIGNMENTS

The following factors regarding interconnection agreements MUST be considered in the determination of a valid NXX effective date:

- The time to establish interconnection agreements between ALL applicable companies.
- Once an agreement is in place, the time needed for the completion of the actual provisioning of the specific network facilities involved to permit interconnection.
- Once facilities have been provisioned, the time needed for the actual completion of trunk group turn-up.

If delays are incurred in the interconnection process, the NXX effective date may need to be renegotiated with the industry Code Administrator<sup>1</sup>. If such effective dates are not appropriately renegotiated there is a high probability that calls will be blocked on the original effective date.

### REPORTING OF INTERCONNECTION ARRANGEMENTS

Once a valid effective date is determined, the NXX, valid switch, and supporting homing arrangement information must be entered in a timely manner into the Telcordia Business Integrated Routing and Rating Database System (referred to as BIRRDs), which is operated and maintained by TRA, for notification to other carriers via the Telcordia LERG Routing Guide and related output from this database. Delays in entering this data will increase the probability of calls being blocked on the effective date (See Troubleshooting Section).

---

<sup>1</sup> The industry Code Administrator for the U. S. and its territories is the North American Numbering Plan Administration group ([www.nanpa.com](http://www.nanpa.com)). For Canada, the code administration functions are managed by the Canadian Numbering Authority (<http://www.cna.ca/>). Code Administration responsibilities for Bermuda and the NANP countries in the Caribbean vary.

Homing arrangements entered into the BIRRDs must be valid and denote connectivity between the two switching entities for the function(s) indicated. Hence, when a switching entity indicates that it subtends or homes on a given tandem, that becomes a confirmation that there is interconnection between the two entities. On a terminating basis, the homing tandem is considered the "last choice" for completing traffic destined for the switching entity.

Incorrect homing arrangements entered into the BIRRDs will ultimately result in blocked calls destined for a switching entity. For example, the BIRRDs data entries for a switching entity indicate that the switch homes on a particular local tandem when in fact, it does not. The local tandem company will, in all probability, know how to correctly route calls, which originate from its own subscribers. Other companies, however, will route the calls to the local tandem in accordance with LERG entries. The local tandem will block the calls, since there is no connectivity between the local tandem and the terminating switching entity. Likewise, there may not be interconnection between the local tandem and a toll tandem owned by the same company. Once the calls reach the local tandem there is nowhere for the local tandem to terminate the traffic, and it will be blocked.

## COMMON LANGUAGE INFORMATION PRODUCTS

### OVERVIEW

In the 1960's the Bell System's experts realized the need for a consistent method of keeping track of all the network elements, including what services it provided and how those elements were interconnected.

To accomplish this, AT&T Bell Laboratories created coding schemes to identify the network components, including locations, facilities, circuits and equipment. At the time of the AT&T divestiture in 1984, these codes were spun off to Telcordia Technologies, Inc., then known as Bell Communications Research, Inc. (Bellcore) for administration and maintenance. With the Telecommunications Act of 1996, the need for seamless interoperability through COMMON LANGUAGE codes was more important than ever. Now known as the COMMON LANGUAGE<sup>2</sup> suite of products, these code sets help telecommunications companies name, locate, inventory and manage all aspects of their networks. COMMON LANGUAGE codes are used globally to identify items as large as a building, as small as a single board in a digital switching machine and as complex as a customer circuit provided over a high speed digital transmission path.

The growth in the telephony industry has been evidenced by the growth of the CLLI code set used for location identification. The American National Standards Institute, (ANSI) T1.253-1996 \T1M1.3 Coding and Data Language Representation sub-working group (CLDR SWG), recommended structure and format conforms to Telcordia Technologies CLLI Code Set format and structure. The definitions and data representation for the CLLI Entity Codes are the intellectual property of Telcordia. CLLI Codes identify network sites that contain telephony equipment, switching and facility interface or interconnection points, network support sites, and customer sites.

Simply using common descriptions of network locations is not enough to achieve interoperability among carriers. CLLI Codes are engineered to provide exact names that people recognize. The engineered name can identify analog, digital, broadband and packet switches. To house the CLLI Code Set, Telcordia has developed the Central Location On-line Entry System (CLONES) for licensees to access and administer their codes. For an 11-character location identifier to be termed a CLLI code, it must be registered in CLONES. The CLONES system is the master reference database that ensures all locations have unique identification codes. Associated attributes such as postal code, latitude and longitude, vertical and horizontal coordinates and switching system type can be identified through properly engineered codes.

Most telecommunication carriers in the United States and Canada license COMMON LANGUAGE products and code sets. These code sets are used in various network data exchange processes (e.g., Access Service Requests (ASRs), the Telcordia LERG Routing Guide (LERG), National Exchange Carrier Association (NECA) Federal Communications Commission (FCC) Tariff No. 4).

For more information on the COMMON LANGUAGE information suite of products, you can access <http://www.commonlanguage.com/>

The following page provides additional details on the structure and format of these codes.

---

<sup>2</sup> COMMON LANGUAGE products consist of CLLI Codes (Location Codes), CLEI Codes (equipment Codes), CLCI SS Codes (Special Service Codes), CLCI-MSG Codes (Message Circuit Codes), CLFI Codes (Facility codes), NC/NCI Codes (Network Channel, Network Channel Interface Codes), General Codes (General Business codes, EC/IAC Codes, Manufacturer Codes etc.)

## ANSI T1.253-1996

### Network Site Format

The network site format (8-characters), which is part of the eleven-character CLLI code, uniquely identifies the telecommunications service company structure housing equipment or personnel. This format shall consist of a sequence of Place Code/Geographical Code, State Code/Geopolitical Code and Building Code/Network Site Code data elements, resulting in a code that totals eight characters in either of the following formats:

ELEMENTS/POSITIONS	1 2 3 4	5 6	7 8
Geographical Code	a a a a		
Geopolitical Code		a a	
Network Site Code			a a

or

ELEMENTS/POSITIONS	1 2 3 4	5 6	7 8
Geographical Code	a a a a		
Geopolitical Code		a a	
Network Site Code			n n

### Network Entity Format

The network entity CLLI code uniquely identifies the function of equipment or personnel housed in a telecommunications service company structure. This format shall consist of a sequence of Place Code/Geographical Code, State Code/Geopolitical Code, Building Code/Network Site Code and Entity Code/Network Entity Code data elements, resulting in a code that totals eleven characters in either of the following formats:

ELEMENTS/POSITIONS	1 2 3 4	5 6	7 8	9 10 11
Geographical Code	a a a a			
Geopolitical Code		a a		
Network Site Code			a a <i>or</i> n n	
Network Entity Code				x x x

a - indicates any alpha A-Z may be used.

n - indicates any numeric 0-9 may be used.

x - indicates any alphanumeric A-Z or 0-9 may be used.

### Interconnection Notes:

An interconnection location entity (ILE) is a point of interface between two telecommunications carriers. Only the ILE that identifies switched message trunks that carry voice traffic is appropriate for NPA/NXX assignment. The ILE that identifies facility terminations is not appropriate for NPA/NXX.

## COMPANY CODES / OPERATING COMPANY NUMBERS (OCNS)

### OVERVIEW

Company Codes and Operating Company Numbers (OCNs) are not exactly the same but are often used synonymously as terms for a code identifying a telecommunications company. As further detailed below, currently, Company Codes map one-to-one with numeric OCNs, signifying the same company. Historically, the values and assignments processes involved with these codes have varied slightly. Industry efforts in recent years have mapped these values closely together to minimize issues surrounding their similarity.

### COMPANY CODES

A *company code* is a four place alphanumeric code NNX (N=0-9,X=0-9 or A-Z) that identifies providers of local telecommunications service. Although the current standard format for company codes permit alpha characters, a general agreement exists within the industry to assign only numeric codes (i.e., NNNN format) until all available numeric codes are exhausted. Applications of the company code may include, but are not limited to:

- NECA FCC Tariff No. 4
- Use as an Operating Company Number (OCN)
- Routing and Rating Purposes
- Industry recognized guidelines including:
  - Access Service Requests (ASRs)
  - Multiple Exchange Carrier Access Billing (MECAB)
  - Small Exchange Carrier Access Billing (SECAB)
  - Carrier Access Billing Systems (CABS)
  - Exchange Message Interface (EMI)
  - Exchange Message Record (EMR)
  - Interexchange Carrier systems used to audit Exchange Access bills

NECA Services Incorporated serves as the maintenance agent to administer Company Codes based on the ANSI T1 Standard T1.251-2000. The Standard is available through the American National Standards Institute (ANSI) (212-642-4900, [www.ansi.org](http://www.ansi.org)).

Company codes are assigned at two levels: Overall and State/Area Specific. Company codes are assigned for each type of service (e.g., Incumbent LEC, PCS, local resale, CLEC, ULEC, wireless) a company provides. Companies offering more than one type of service are required to obtain multiple codes, regardless if a separate legal entity is created. Company codes will not be assigned for the exclusive use of internal company operations.

#### Obtaining A Company Code:

To obtain a company code, you must fill out a NECA North American Competitive Company Code Request Form or, for NECA members, a North American Incumbent Company Code Request Form. The Company Code Request Forms and procedures can be obtained at [www.neca.org](http://www.neca.org) (Resource Library / Company Code Assignment Procedures) or by calling NECA at 800-228-8597, x8249.

---

## OPERATING COMPANY NUMBERS (OCNS)

*Operating Company Number* (OCN) is the identifier used in the Telcordia Routing Administration (TRA) process to identify carriers and other companies involved with the process. The term is used in various industry guidelines and data flows as a means of associating information to a given company. For example, an OCN is *required* to request an NXX via the Central Office Code (NXX) Assignment Guidelines process or a Thousands-Block via the Thousand Block Pooling Administration Guidelines (TBPAAG).

OCNs and Company Codes (assigned by NECA Services Inc. (NECA)) are separate terms but are closely related. TRA and NECA efforts in recent years have mapped OCN and Company Code values closely together to minimize issues surrounding their similarity. Today, *numeric* OCNs map one-to-one with Company codes. As with Company Codes, multiple OCNs may apply to carriers that operate in different states and/or provide different functions (e.g. wireless, CLEC).

To avoid potential conflicts with assignments, numeric Company Codes are assigned by NECA and are then concurrently identified as OCNs within the TRA process. Although ANSI T1 Standard T1.251-2000 defines a Company Code format of NNXX (N=0-9,X=0-9,A-Z), the current NECA Company Code assignment plan is to retain numeric assignments until numerics are exhausted or unless other overriding factors arise. Further, various industry forums are working to synchronize Company Codes, OCNs, Local Service Provider Identification (LSPID), and other company identifiers to aid with consistency and efficiency in managing data through various industry processes such as generating and processing Call Detail Records (CDRs).

Note that numeric OCNs are a subset of all OCNs. Some existing OCNs are in an AXXX (A=A-Z,X=0-9,A-Z) format and are used exclusively for TRA database administration and for NPA 500 and NPA 900 assignments. Such OCNs are developed/assigned internally by TRA for TRA data and database purposes only and should not be used by a given company outside of those reasons.

Companies with no prior CO code (NXX) or Company Code assignments may contact NECA on (800-228-8597 x8249) to be assigned a Company Code. Since multiple OCNs and/or Company Codes may be associated with a given company, companies with prior assignments should direct questions regarding appropriate OCN usage in TRA databases to the TRA Customer Service Center (732-699-6700).

## ADMINISTRATIVE OPERATING COMPANY NUMBER (AOCN)

### OVERVIEW

An Administrative Operating Company Number (AOCN) is (technically) a code used to identify a company that has opted to enter its own and/or other companies' network routing and rating data into databases that include Telcordia Routing Administration's Business Integrated Routing and Rating Database System (BIRRDs). Over time, the acronym AOCN has also become a means of addressing the company that performs these data administration functions.

Historically, in 1984, database administration was managed by Telcordia Technologies (at the time known as Bell Communications Research (Bellcore) on behalf of the Bell Operating Companies (BOCs) and a few of the larger independent telephone companies. In 1998, database administration became the directly responsibility of Telcordia. The industry and process has since evolved whereby wireless providers, competitive local exchange carriers, etc., have opted to directly manage their own data. The changes in the industry have also prompted an increase in third-party companies who offer to perform the data entry function.

### BECOMING / OBTAINING AN AOCN:

Companies (record holders) with data that needs to be created or updated in the BIRRDs database have two options: (1) They can directly input their own data by becoming an AOCN or, (2) they can reach an agreement with a third-party who is willing to provide the service.

#### *Direct Input:*

Companies directly inputting their own data and/or that of others must have a signed agreement with TRA that includes an agreement to be billed by, and to pay, TRA an annual charge that is based on a company's share of the database as determined by its relative percentage of certain predetermined record types. The terms and conditions associated with these agreements are standard for all companies so that a fair and equitable process is maintained among all parties. These agreements and the services they provide are also known as TRA "Fair Share Plan" agreements. Additional information can be found at the TRA website ([www.trainfo.com](http://www.trainfo.com)) or by calling the TRA Customer Service Center Hotline (732) 699-6700.

#### *Third-Party (indirect) input:*

A company needing to report data into the BIRRDs database may opt not to perform direct data entry. In these cases, it is the responsibility of that company to seek a third-party AOCN that can perform such input. A list of existing AOCNs that provide this input function can be found at the TRA website ([www.trainfo.com](http://www.trainfo.com)) or by calling the TRA Customer Service Center Hotline (732) 699-6700.

#### Note:

- Procedures, charges, and the extent of services, may vary among third-party AOCNs.
- TRA does not provide recommendations or assessments of third-party AOCNs.
- TRA itself does not perform the AOCN function on behalf of other companies.

### AOCN RESPONSIBILITIES

It is expected that an AOCN will directly input the data it is responsible for into the TRA databases in a

timely and accurate manner to permit its subsequent dissemination. In general, it is expected that an AOCN will read, understand, and react, as appropriate, to data discrepancy reports and database changes (e.g., introduction of new data elements). Also, when possible, an AOCN should participate in industry issue resolution processes and in developing planned changes to the databases and/or surrounding processes.

Any specific responsibilities that an AOCN has in serving as a third-party database administrator for another company should be addressed in the individual agreements prepared between that AOCN and each company for which it is performing the database service. In cases of third-party AOCNs, the record holder is ultimately responsible for the accuracy of the data and the timeliness of its entry.

## PROCESS FOR CHANGING AN AOCN

Companies (record holders) that have data in TRA databases may, on occasion, need to change the AOCN administering their data.

The record holder should note the following:

### *Changes to third-party AOCNs:*

- a) Identify any contractual obligations or conditions that may apply with the current AOCN. The record holder company should satisfy or negotiate a change to these conditions, as appropriate, before going any further.
- b) Identify the terms, conditions, pricing, and contractual obligations that may be required by the party being considered as the new AOCN.
- c) Negotiate an effective date for the change of AOCN responsibility that is mutually acceptable to the record holder company and the new AOCN.

The following steps are also valid, however situations among companies may differ. The record holder company must establish appropriate dialogue with the old and new AOCNs and TRA to effect how best to handle specific cases.

Prepare a letter for signature by the company that has agreed to be your *new* AOCN. In this letter, the new AOCN accepts maintenance and input responsibility for your routing and rating records. This letter must specify the effective date of the change of AOCN. In addition, this letter must denote your OCN(s), the specific NPA-NXXs involved, the affected switches and corresponding tandems, business office codes, and/or special calling card records, if any, being transferred.

The new AOCN must forward directly to TRA its letter that accepts responsibility for inputting your data into BIRRDs. TRA requires a letter from the new AOCN before any action will be taken to transfer update responsibility for your company's records from one AOCN to another.

If for some reason your current AOCN notifies you that it will be relinquishing responsibility for your BIRRDs records, then your company must initiate contact with a potential new AOCN and negotiate a service arrangement as previously reviewed.

### *Changes between direct input and third-party AOCNs*

In cases where a company opts to assume direct inputting from a third-party previously performing the function, or where a company having done direct inputting opts to have a third-party enter the data, the following steps should be followed:

#### *Assuming direct input*

A record holder company wishing to assume direct input should first establish a “Fair Share Plan” agreement with TRA, as previously reviewed.

The record holder company should then coordinate efforts between TRA and its current AOCN relative to date of record transfer, specific records involved, access to the database, etc.

*Transfer to a third-party AOCN*

A record holder company wishing to relinquish direct input should first establish an agreement with its new AOCN. A list of existing AOCNs that provide this input function can be found at the TRA website ([www.trainfo.com](http://www.trainfo.com)) or by calling the TRA Customer Service Center Hotline (732) 699-6700.

The record holder company should then coordinate efforts between TRA and its new AOCN relative to date of record transfer, specific records involved, etc.

## **CONSEQUENCES OF NOT HAVING AN AOCN**

- In cases of newly assigned NPA NXXs, if a record holder’s data is not entered into the TRA databases, it may be necessary for the industry CO Code Administrator to change the effective date for the assigned NPA NXXs. This would be done, if necessary, to ensure that the minimum industry notification interval would be met. (Note: the Industry Numbering Committee (INC) identified the minimum effective date to activate a NPA NXX to be 45 calendar days after routing and rating data has been input to BIRRDs).
- In cases of newly assigned NPA NXXs, lack of an AOCN correlates to an inability to enter NPA NXX, switch, tandem, and other pertinent information in the databases. Lack of this information in the databases and their outputs may result in blocked calls, billing discrepancies, loss of revenue, etc., for your company, and may have a detrimental impact on subscribers, other carriers, and the integrity of the national telecommunications infrastructure.
- In cases of NPA NXXs that are already active, lack of an AOCN correlates to an inability to update NPA NXX, switch, tandem, and other pertinent information in the databases. Lack of such updated information may result in blocked calls, billing discrepancies, loss of revenue, etc., for your company, and may have a detrimental impact on subscribers, other carriers, and the integrity of the national telecommunications infrastructure.

Note:

For new NPA NXX assignments, the industry CO Code Administrator cannot input COCAG Part 2 Routing and Rating information into the TRA databases (BIRRDs) as a default AOCN. If this is assumed, your company’s data will not be entered.

This page intentionally left blank.

## REVENUE ACCOUNTING OFFICE (RAO)

### OVERVIEW

A Revenue Accounting Office (RAO) is a three-character alphanumeric code used in the routing of billing records. RAOs are used to exchange message details between the company recording a message at the point of origination, and the company billing the call to an end user.

Exchange message details are arranged in packs (groups) of common RAOs by the company recording a message and are then forwarded to the intended billing companies. These billing packs are electronically sent over the Centralized Message Distribution System (CMDS).

Only companies serving as "Direct Participants" may be linked directly to CMDS in order to originate or receive billing packs. Other companies may use CMDS, but only through a contract with a Direct Participant Company serving as a host agent.

**RAO Code Guidelines** that address the assignment and use of RAOs have been prepared by the RAO Administrator and can be downloaded from [www.trainfo.com](http://www.trainfo.com). A summary of some pertinent aspects of RAOs follow (guidelines provide more information).

### USES OF RAOS

A Revenue Accounting Office (RAO) code is utilized in the telecommunications industry for the following four functions:

1. Message routing
2. Intercompany Settlements
3. NPA NXX activation
4. Special Calling Card number

Note: Individual companies may have other locally defined uses for RAO codes.

An RAO is an element used by numerous billing systems to manage the process of moving appropriate call detail information to the proper subscriber's bill. An RAO is also a data element associated with an NPA NXX and is part of the supporting NXX information entered into TRA's Business Integrated Routing and Rating Database System (BIRRDs) that generates the Telcordia TPM Data Source data files.

### OBTAINING AN RAO

RAO requests are sent to the RAO Code Administrator in Telcordia Technologies, Inc. for assignment as described in the **RAO Code Guidelines**. RAOs containing at least one alpha character will be assigned unless there is an expectation that the RAO will be used to provide Special Calling Card services, in which case a fully numeric RAO would be assigned. Currently four types of RAOs are identified in the Guidelines: Full Status, Nationwide, Shared, and Non-hosted.

Also, a CMDS Direct Participant Company, in its capacity as a CMDS Host Company per a contract/agreement with a telecommunications service provider requests a hosted RAO code (either full status or nationwide as defined in the guidelines) from the RAO Code Administrator on the behalf of the service provider. Non-hosted RAO codes, however, are obtained directly from the RAO Code

Administrator.

## **CENTRALIZED MESSAGE DISTRIBUTION SYSTEM (CMDS)**

CMDS is owned and administered by Telcordia Technologies, Inc. as a national electronic data transmission system, based in St. Louis, Missouri, used to exchange Electronic Message Interface (EMI)-formatted data among CMDS Direct Participants. CMDS Direct Participants are those companies that are linked directly to CMDS for sending and/or receiving messages. Any company can be a CMDS Direct Participant provided it has negotiated a contractual agreement with Telcordia Technologies, Inc. However, other companies may become CMDS Indirect Participants by using CMDS through a CMDS Direct Participant that serves as a host agent.

CMDS is a clearinghouse for the distribution of many types of Electronic Message Interface (EMI) formatted records. These records types include:

- § end user billing
- § carrier access billing
- § mutual compensation
- § database queries
- § customer account information
- § copy records
- § intra-LATA alternate billing

CMDS also incorporates a settlement report system for intra-LATA alternate billing records.

## CENTRAL OFFICE CODE GUIDELINES (COCAG)

### OVERVIEW

The Central Office (CO) Code Assignment Guidelines (COCAG) were developed during the mid 1990s at the direction of the United States Federal Communications Commission (FCC). They are updated ongoing and *serve as the basis for the procedures a company must follow to request a CO Code (i.e., NXX)*.

The COCAG (document: INC 95-0407-008) is maintained by the Industry Numbering Committee (INC) which is a committee under the auspices of the Alliance for Telecommunications Industry Solutions (ATIS). The latest version of the COCAG and forms can be found at [www.atis.org](http://www.atis.org) on the page(s) that refer to the INC committee's documentation. Please check the ATIS web site periodically to download the most current version of the COCAG.

The COCAG has various components: (1) the basic body (text) of the Guidelines that identify procedures, rights and responsibilities of the various parties involved in requesting and assigning CO Codes, etc., (2) various appendices that are used to provide information by the Code requester, (3) Parts 1 through 4, which are used to request a CO code, provide supporting information, confirm the assignment, and confirm CO code activation, respectively.

The remaining portion of this section of this document summarizes:

- COCAG (body of the guidelines)
- Part 1 Form (i.e., form used to request an NPA NXX from the CO Code Administrator)
- Part 2 Forms
- Part 3 Form
- Part 4 Form
- NRUF (Form 502)

---

### 1. COCAG

The body (main text section) of the COCAG provides the basic guidelines that should be followed to request a CO Code and identifies the rights and responsibilities of the Code Applicant, Code Holder, and CO Code Administrator relative to CO Codes. References are made to the purpose and use of the various appendices and forms that are part of the guidelines and associated with various aspects of the process.

The following is an abridged version of the Purpose and Scope of the COCAG from the January 2000 version of the guidelines:

## Purpose and Scope - COCAG

The COCAG provides guidelines for the assignment of central office codes (also referred to as CO codes in this document). The term CO code or NXX refers to digits D-E-F of a 10-digit NANP Area address, e.g., 740 is the CO code (NXX) in (201) 740-1111. Examples of uses for CO codes (NXX) for which these guidelines apply include Plain Old Telephone Service (POTS), Centrex, Direct Inward Dialing (DID), cellular mobile service, pagers, data lines, facsimile, coin phones, and customer owned pay phones. While these guidelines were developed at the direction of the FCC,<sup>3</sup> they do not supersede controlling appropriate NANP Area governmental or regulatory principles, guidelines and requirements. These industry consensus guidelines are expected to apply throughout the NANP Area subject to guidelines and constraints of the NANP Area administrations.

These guidelines apply only to the assignment of CO codes (NXX) within geographic numbering plan areas (NPAs). This does not preclude a future effort to address non-geographic NPAs in the same guidelines.<sup>4</sup> CO codes (NXXs) are assigned for use at a Switching Entity or Point of Interconnection they own or control. Entities assigned CO Codes are termed "code holders". While the ultimate delivery of any call to a CO code (NXX) need not be geographically identified, by necessity initial routing is geographically defined. Therefore, for assignment and routing purposes, the CO code (NXX) is normally associated with a specific geographic location within an NPA, from which it is assigned. For some companies, this is also used for billing purposes.

## 2. COCAG - PART 1

The COCAG Part 1 form is essentially the form used to request assignment of an NPA NXX. A Job Aid, maintained by the North American Numbering Plan Administration (NANPA) is available at [www.nanpa.com](http://www.nanpa.com) (listed under Central Office Codes). The COCAG Part 1 Job Aid provides definitions and clarification of the data that a Code Applicant is required to provide on the form.

If the code request is for an initial assignment of a central office code, it must include evidence of certification and evidence documenting readiness to provide service within 60 days of the code effective date.

It is *imperative* that consideration be given to the following topics (as described in other sections of this document) *prior to* requesting a CO Code.

- Appropriate regulatory certification to provide service in the area (e.g., state) being considered.
- Establishment of appropriate interconnection agreements with *all* potentially impacted carriers.
- Availability of facilities, switches, and any other plant items as may be needed to support service.
- Identification of proper switch identifiers (see COMMON LANGUAGE section) needed for Part 1 and Part 2 forms.
- Establishment of an AOCN (see AOCN section) to provide and maintain data for various industry information/notification databases and processes.
- Obtaining a Company Code that will be used as an OCN (see Company Code/OCN section).

Consideration of the following may also be pertinent:

---

<sup>3</sup> This effort has been undertaken at the direction of the Federal Communications Commission (FCC), in a letter to NANPA dated June 21, 1991, in an attempt to develop procedures that can be applied uniformly while using a finite numbering resource in the most efficient and effective manner possible.

<sup>4</sup> Separate procedures apply to the assignment of NXX codes within currently assigned Service Access Codes (SACs), and others will be developed, as appropriate, as new SACs are assigned by NANPA. For example, NXX assignment guidelines for the 800 and 900 SACs are available. Separate guidelines also will be prepared to address the assignment of numbering resources reserved for non-geographic applications.

- Establishment of Directory and/or other Operator Services agreements, interconnections, etc., if not already established in existing interconnection agreements.
- Bill Number Screening (BNS) (i.e., third-party billing, collect calls, calling cards) as an alternate to direct payment at, or billing to, the originating calling party. This may include the need to establish agreements with providers of Line Information DataBase (LIDB) services, or equivalent "databases" where BNS information resides.
- Subscriber billing arrangements if not already established in existing interconnection agreements.
- Identifying or obtaining an appropriate Revenue Accounting Office (RAO) code needed for intercompany message exchange and certain settlements processes (see RAO section)
- Wireless carriers may need to obtain SID and BID codes.
- Participation in NECA Tariff FCC No. 4 - a requirement if an incumbent local exchange carrier, not currently applicable to Type 2 wireless providers, optional in all other cases. Unless a new incumbent carrier (i.e., providing service to an area in the United States that previously did not have telephone service), this is not a prerequisite consideration relative to obtaining a CO Code.

### 3. COCAG - PART 2

The COCAG Part 2 forms are a set of forms used to provide information supporting a CO Code assignment for input into the BIRRDs databases. These databases are used as an industry recognized means of centrally collecting and disseminating pertinent routing and rating data within the industry and to others (e.g., PBX maintenance) that may need to know. Technically, a Code Applicant must await receipt of a COCAG Part 3 form from the CO Code Administrator before actually proceeding with entering COCAG Part 2 information into the databases. However, a substantial part of COCAG Part 2 information can be prepared prior to, and in anticipation of, receipt of a COCAG Part 3 form.

A Job Aid, maintained by the Telcordia Routing Administration (TRA) is available at [www.trainfo.com](http://www.trainfo.com) (documents) or by calling the TRA Customer Service Center (732) 699-6700. The COCAG Part 2 Job Aid provides definitions and clarification of the data that a Code Applicant is required to provide on the forms.

Once a CO Code has been assigned, the Code Holder, as indicated in the COCAG, is responsible for entering correct routing and rating data into the BIRRDs databases within an appropriate timeframe. Parties known as AOCNs (see AOCN section) enter data (a company can be its own AOCN). Actual use of the COCAG Part 2 forms is not necessarily a requirement; they serve as a guide for identifying the necessary data. However, entry of correct data is required. If a company serves as its own AOCN or has an agreement with a third-party company for data entry, it is *possible* that alternate means (in lieu of COCAG Part 2 forms) will be used to provide data.

It is *imperative* that CO Code holders understand that reporting of routing and rating data for a CO Code is an *ongoing* responsibility and not just an initial effort performed when obtaining the CO Code. Various data may change over time (e.g., switch, homing arrangements, mergers and acquisitions that change the OCN, etc.) and must be processed by the Code Holder via its AOCN. Ongoing changes within a company may also require reconsideration of some of the items previously listed under COCAG Part 1 (e.g., new interconnection agreements, new billing arrangements (e.g., RAO impacts), etc.). The industry may also determine that new data elements are needed for which data must be entered.

Note that the Code Administrator must be notified of any changes to the information in Part 1 of the CO Code (NXX) Assignment Request form.

### 4. COCAG - PART 3

The COCAG Part 3 form is issued by the CO Code Administrator and serves to notify the Code Applicant as to the disposition of their CO Code (NXX) Assignment Request form (e.g., code assignment, suspension, denial, etc).

## **5. COCAG - PART 4**

The Code Holder must send the COCAG Part 4 form, within a certain timeframe, to the CO Code Administrator. This form serves as an acknowledgement that the CO Code has been placed into service. The specific timeframe is identified in the COCAG and/or can be obtained from the CO Code Administrator.

## **6. UTILIZATION/FORECAST REPORTING (NRUF) (FORM 502)**

The Federal Communications Commission, in the 2<sup>nd</sup> report and order in the matter of Numbering Resources Optimization, CC Docket No. 99-200, FCC 00-104 (March 31, 2000), mandated that service providers submit a utilization and forecast report. The code applicant must have a form 502 on file with NANPA for the NPA and rate center (if in a pooling rate center) prior to submitting a code request.

## LOCAL NUMBER PORTABILITY

### OVERVIEW

Local Number Portability (LNP) is a concept that permits greater flexibility in the association of a telephone number to a company and/or individual. Historically a NPA NXX is assigned to a single local service provider. That provider would then have control of that number in its entirety. In an area where multiple local service providers may operate, subscribers changing their provider would then have to change their telephone number as well. To address this LNP processes were developed and in the mid-1990's and began implementation shortly thereafter.

Basically, LNP refers to the ability of end users to retain their telephone number when they change their physical location, service provider or type of service.

A telephone number that has been retained when one of these changes is made is called a "ported number".

There are three types of number portability:

- Service Provider portability - the ability to change service providers (while at the same location / Rate Center) and retain the same number.
- Location portability - the ability to change physical location (beyond the Rate Center area) and retain the same number.
- Service portability - the ability to change the type of service (while at the same location) and retain the same number.

As of this writing, Service Provider portability is the only type of portability in effect. Location portability requires a substantial number of issues to be addressed and resolved prior to its becoming a reality.

LNP implementation is based on various levels of service and other factors. The initial implementation schedule established by the FCC for the U. S., identified the top 100 Metropolitan Statistical Areas (MSAs) as areas where LNP must be provided to customers. Companies in these areas are required to provide LNP. Variations in a carrier being required to provide LNP currently exist: for example, smaller rural carriers may not be equipped to provide LNP, paging companies are currently exempt, wireless carriers are not required to participate until November 24, 2002.

The minimum requirement for a LSP to provide LNP capability in its network is a Service Switching Point (SSP). While all component functionality is required to provide LNP capability, a new LSP may arrange component functionality from third-party sources.

The components for an LNP capable network include:

- Service Switching Point (SSP)
- Signal Transfer Point (STP)
- Service Control Point (SCP)
- Local Service Management System (LSMS)/Service Order Administration (SOA).

### LNP RELATIVE TO A NEW LOCAL SERVICE PROVIDER

The Federal Communications Commission's (FCC's) First Report and Order on Telephone Number Portability (C.C. Docket No. 95-116, Document No. 96-286) Appendix B at ¶52.3(b) adopted June 27, 1996 requires certain requirements of all LSPs operating within the Top 100 Metropolitan Statistical Areas (MSAs). A new LSP should consult the FCC order to determine requirements that impact their company.

## **LOCATION ROUTING NUMBER (LRN)**

LNP is made technically feasible by use of a Location Routing Number (LRN). An LRN is a 10-digit number used to uniquely identify a switch that has ported numbers from another switch (i.e., subscribers now work out of the new switch rather than the switch the NPA NXX was originally native to). The LRN for a particular switch must be a native NPA-NXX assigned to the SP for that switch. Essentially, LRN assigns a unique 10-digit telephone number to each switch in a defined geographic area. The LRN serves as a network address.

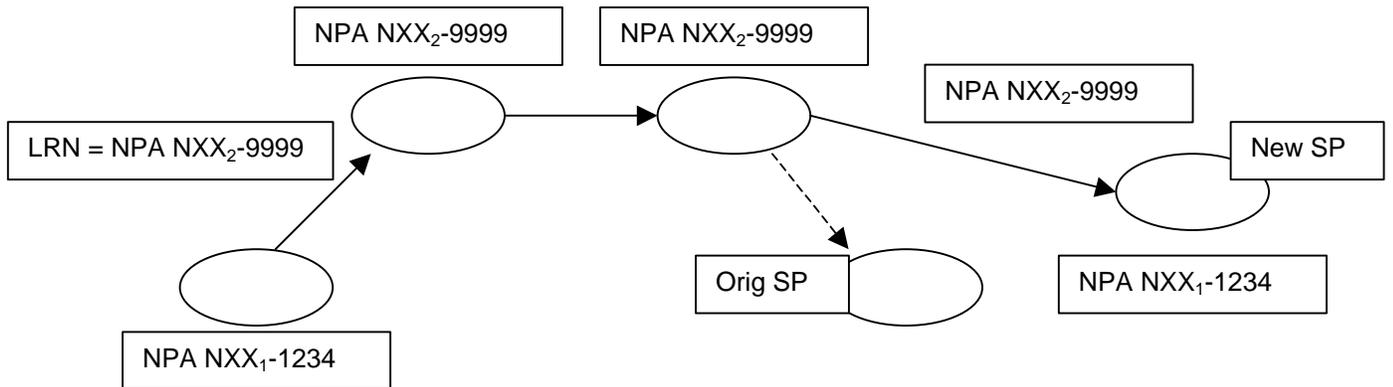
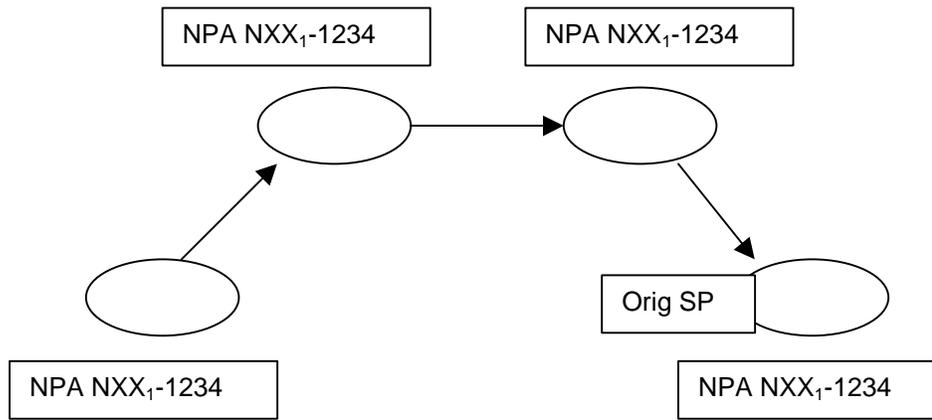
Carriers routing telephone calls to end-users that have transferred their telephone numbers from one carrier to another perform a database query to obtain the LRN that corresponds to the dialed telephone number. The database query is performed for all calls where the NPA-NXX of the called number has been marked in the switch as portable. The carrier then would route the call to the new carrier based on the LRN. The Location Routing Number (LRN) depends on Intelligent Network (IN) or Advanced Intelligent Network (AIN) capabilities which must be deployed in the participating LSPs networks.

### Local Number Portability Routing Example

In the pre-LNP example a call placed to NPA NXX<sub>1</sub>-1234 is routing through the PSTN through as many switches as may be necessary to reach its destination, as NPA NXX<sub>1</sub>-1234

In this example, note that NPA NXX<sub>1</sub> is associated with the switch of an “original” Service Provider and NPA NXX<sub>2</sub> is native to the switch of a “new” service provider. An LRN must have its first 6 digits associated with an NXX of a switch to which that NXX is native. The “new” service provider switch needs to have at least one LRN that all numbers ported to it can be mapped to.

#### Pre-LNP



#### LNP

Under LNP, the dialed number (NPA NXX<sub>1</sub>-1234) is determined to be “ported” via a database dip that occurs in the call setup. In this example, NPA NXX<sub>1</sub>-1234 is “mapped” in the LNP database to a Location Routing Number (LRN) of NPA NXX<sub>2</sub>-9999. This LRN is processed through the call setup as if it were the called number. The actual called number is stored in the message being sent. At a point prior to completing the call, the stored actual called number replaces the LRN and the call completes to that number.

This page intentionally left blank.

---

## THOUSANDS-BLOCK POOLING

### OVERVIEW

Thousands-Block pooling allows for the sharing of Central Office Codes among multiple Service Providers serving the same rate area. All ten thousand telephone numbers within each NXX Code continue to be associated with the same rate area designation (i.e., V&H coordinates), but can be distributed among multiple SPs at the Thousands-Block (NXX-X) level.

Thousands-Block pooling requires using LNP (Local Number Portability) and must be mandated by the appropriate regulatory body.

The Thousands-Block (NXX-X) Pooling Administration Guidelines (document INC 99-0127-023) is maintained by the Industry Numbering Committee (INC). The latest version of the guidelines and forms can be found at [www.atis.org](http://www.atis.org).

The forms associated with Thousands-Block pooling are:

1. Part 1A
2. Part 1B
3. Part 3
4. Part 4
5. Months to Exhaust
6. Forecast Form

#### Part 1A

The Part 1A is one of the forms essential for applying for a NPA-NXX-X. Multiple blocks may be requested on one form if it is for the same switch and rate center.

#### Part 1B

The Part 1B is another form essential for applying for a NPA-NXX-X. This form contains Number Portability Administration Center (NPAC) Block Holder Data.

#### Part 3

The Part 3 is issued by the Pool Administrator and serves to notify the Block Applicant as to the disposition of their block request.

#### Part 4

A Service Provider must send a Part 4 to the Pool Administrator showing that a block has been placed in service.

#### Months to Exhaust TN Level

Used by SPs to certify the need for an additional block.

**Forecast Form**

Used by an SP to forecast by Rate Area of how many blocks the SP will need for the next 18 months.

## NECA TARIFF FCC NO. 4

### OVERVIEW

NECA Tariff FCC No. 4 is an important telephone industry resource that contains incumbent local exchange carrier and competitive carrier wire center and interconnection information that supports the ordering, billing and provisioning of interstate access services. The National Exchange Carrier Association (NECA) maintains the tariff, which is essentially a large database containing the location and technical capabilities of all the participant's wire centers from which interstate access service is provided. The tariff contains the information for determining the distance between telecommunications facility installations so that charges based on distance can be accurately calculated. NECA Tariff FCC No. 4 also specifies billing percentage agreements when more than one company provides transport services.

The tariff is updated and filed monthly with the FCC. Companies have until the 6th calendar day of each month to input data. Network changes are then filed and become effective the first of the following month.

### PARTICIPATION IN NECA TARIFF FCC NO. 4

Incumbent Local Exchange Carriers (LECs) (NECA members) are required to file their wire center and interconnection information in the tariff. Competitive carriers (CLECs, wireless and local resellers) may participate in the tariff for a cost-based fee.

Including your company's data in Tariff FCC No. 4 increases the competitiveness of your interstate access services in several ways:

- Improves the access ordering and billing process
- Advertises the location and technical capabilities of your network
- Creates a national reference for your company's billing percent agreements

This page intentionally left blank.

## INDUSTRY FORUMS, ASSOCIATIONS, GENERAL INDUSTRY SUPPORT

### OVERVIEW

As in any broad industry arena, the telecommunications industry has numerous associations, groups, forums, and similar organizations, each of whose membership base reflects representation from many different companies. The areas in telecommunications that these groups may focus on may be wide in scope, covering operations, equipment, standards, etc., or, may be specific to a given technology or segment of the industry.

This section of this document identifies some of the broad-based organizations that serve the industry. Membership in most of these organizations is usually "optional", may require a company pay dues or similar membership fees, work within defined scopes and mission statements, and follow defined rules in conducting business.

Several of these organizations are an integral component in the development of industry (or industry segment) standards, operating guidelines, procedures that ultimately are intended for the entire industry or segment. Membership and active participation in appropriate organizations is encouraged to permit your company to have a say in the development of processes that will impact it and to gain insight into the ever-changing nature of the industry.

#### **Alliance for Telecommunications Industry Solutions (ATIS) ([www.atis.org](http://www.atis.org))**

The Alliance for Telecommunications Industry Solutions (ATIS) is a membership organization that provides the tools necessary for the industry to identify standards, guidelines and operating procedures that make the interoperability of existing and emerging telecommunications products and services possible.

ATIS member companies are North American and World Zone 1 Caribbean providers of telecommunications services, and include telecommunications service providers, competitive local carriers, cellular carriers, interexchange companies, local exchange companies, manufacturers, software developers, resellers, enhanced service providers, and providers of operations support. It works because telecommunications carriers, service providers and equipment manufacturers follow common standards and operating procedures -- standards and procedures that ensure reliable and seamless voice and data transmission over networks, and interoperability between equipment. Over 3,000 industry company representatives participate each year in ATIS committees and forums -- following strict guidelines that ensure fairness, equability, and industry-wide consensus in the development of standards and procedures.

The world of telecommunications faces many new and exciting challenges. ATIS member companies and sponsored committees are developing valuable and important products -- cutting-edge and industry-endorsed standards, procedures and reports -- that are changing the way the world communicates.

#### **United States Telecom Association (USTA) ([www.usta.org](http://www.usta.org))**

United States Telecom Association (USTA) is a trade association representing the United States' local exchange carrier industry. USTA provides a common ground where local telephone companies of all sizes can unite to advance the industry's concerns. The association represents more than 1,200 small, mid-size and large companies worldwide. USTA promotes the general welfare of the telephone industry, collects and disseminates industry information and provides a forum for the discussion and resolution of issues of mutual concern.

### **Cellular Telecommunications Industry Association (CTIA) (<http://www.ctia.org/>)**

The CTIA is a trade association for wireless telecommunications companies, suppliers, and manufacturers. CTIA sponsors conventions and seminars, advocates for its member companies at the federal and state levels, conducts research and gathers statistics for the wireless industry, and serves as a resource for wireless telephony consumers.

### **PCS Carriers Industry Association (PCIA)**

PCIA has been instrumental in advancing regulatory policies, legislation, and technical standards that have helped launch the age of personal communications services. One of PCIA's greatest strengths is its ability to foster and represent consensus in order to advance the interests of the PCS industry.

PCIA represents the chief providers of wireless voice and data communications to both consumers and businesses. PCIA's member companies include PCS licensees and those in the cellular, paging, ESMR, SMR, mobile data, cable, computer, manufacturing, and local and interexchange sectors of the industry, as well as technicians, wireless systems integrators, communications site owners, distributors and service professionals, and private corporate system users.

### **NARUC ([www.naruc.org](http://www.naruc.org))**

The National Association of Regulatory Utility Commissioners (NARUC) is a national association composed of governmental agencies of the fifty States, the District of Columbia, Puerto Rico and the Virgin Islands engaged in the regulation of utilities and carriers. Its chief objective is to serve the consumer interest by seeking to improve the quality and effectiveness of public regulation in America. NARUC sponsors numerous committees covering a range of global utility concerns, including telecommunications.

### **Association for Local Telecommunications Services (ALTS)**

The ALTS is the trade association that represents the builders of high-speed local communications – CLECs that are "facilities-based." ALTS was founded to harness the shared energy and vitality of the new local competitors—and to help ensure regulations for robust competition, spawned by the 1996 Act, are implemented and enforced. ALTS produces important industry events, products and services to help CLECs WIN in the marketplace.

---

## RELATED INDUSTRY GUIDELINES

This section briefly describes various numbers, codes, etc. that are used within the telecommunications industry that are also somewhat related to processes described in other sections of this document. If a source for additional information (e.g., guidelines) is known, it has been identified.

### CARRIER IDENTIFICATION CODES (CIC)

CICs are used to route and bill calls from end users in the public switched telephone network via trunk-side connections to interexchange carriers and other entities. To obtain a CIC, an applicant must purchase access from an access provider, who will in turn apply to NANPA for the assignment on behalf of the access purchaser. CICs are assigned according to the guidelines developed by the ATIS-sponsored Industry Numbering Committee (INC) (document 95-0127-006) ([www.atis.org](http://www.atis.org)). Assignments of CICs are made by NANPA.

The following is abridged from INC document 95-0127-006:

Today, CICs are four-digit numeric codes that are currently used to identify customers who purchase Feature Group B (FG B) and/or Feature Group D (FG D) access services.<sup>5</sup> These codes are primarily used for routing from the local exchange network to the access purchaser and for billing between the LEC (Local Exchange Carrier) and the access purchaser.

In addition to those CICs assigned by the CIC administrator (NANPA), there are 200 four-digit CICs, numbers 9000-9199, designated for intranetwork use and are therefore unassignable. These CICs are 1) intended for intranetwork use only, 2) not intended to be used between networks, 3) not intended to be dialable by end users as a CAC (defined in this section). Use of the 200 unassignable CICs is at the discretion of each network provider and will not place requirements on other network providers.

In addition to the use of CICs by the LECs for routing and billing of access, the CIC comprises part of the Carrier Access Code (CAC), a dialing sequence used by the general public to access a preferred provider of service.

For FG B, the CAC is in the format 950-XXXX, where XXXX is the FG B CIC.

For FG D, the CAC is dialed using either a 5-digit format (10XXX) or a 7-digit format (101XXXX), where X = 0 through 9. For CICs assigned before FG D expansion in 1995, the CAC may be dialed either as 10XXX or 1010XXX during a permissive period, i.e., , previous 3-digit CICs are preceded by a "0" to convert them to a 4-digit format.

### 555 LINE NUMBERS

Historically the 555 NXX was uniquely set-aside for purpose of providing directory assistance to other NPAs by dialing NPA-555-1212. Assignment of 555 NXXs follow guidelines developed by the ATIS-sponsored Industry Numbering Committee (INC) (INC document 94-042-902) ([www.atis.org](http://www.atis.org)) Assignments of 555 Line Numbers are made by NANPA.

---

<sup>5</sup> For purposes of these guidelines, "access services" includes the purchase of trunk access for FG B or D, and, in the case of FG B, translations access (where available). Although LECs are not formal "purchasers" of FG B or FG D access, these guidelines do not preclude LECs from being assigned CICs.

The 555 NXX Guidelines have been established as the result of an industry consensus that a unique number set (NPA-555-XXXX) is a solution to identified industry needs. The 555 NXX provides for types of public information service needs that may not be met by current numbering solutions, e.g., 976 and 900. These guidelines treat only the assignment of 555 numbers. Implementation of the 555 number assignments is beyond the scope of these guidelines. These guidelines are not intended to address local dialing arrangements for 555 numbers.

All number assignments are for 10-digit 555 numbers in the format NPA-555-XXXX. When a number is requested from the available resource and assigned, the 4-digit line number will be designated as either a national or a non-national number.

- A national number is a unique line number in the 555 NXX assigned to an entity for use in all or most of the geographic NPAs in the NANP Area. A number will be designated as a national number if it is to be used in at least 30% of all NPAs or states or provinces in the NANP Area. National numbers cannot be assigned by the Administrator to any other entity.
- A non-national number is a line number in the 555 NXX assigned to an entity for use in a specific geographic area or areas (NPAs, states, or provinces). A number will be designated non-national if it is to be used in fewer than 30% of NPAs or states or provinces. Non-national numbers are available for assignment to multiple entities, assuming those entities wish to use the non-national number in different geographic NPAs.

There are three choices in this section of which you will choose one. If your company does not have its own STP, you will request a point code block, and complete that section only.

## SS7 POINT CODES

“Point codes” are a means of addressing certain network elements within the Signaling System 7 (SS7) signaling protocol. The SS7 protocol permits signaling (e.g., call setup processes) to be handled outside the circuits they will actually control a call (as is done in inband analog signaling). Point codes are 9 digits (actually a 24 bit binary code) where the first three digits define the “network” (unique for “large” networks, generic for “small” networks), the next three define a “cluster” and the last three define a “member”.

More detailed information can be found in ANSI T1.111-1996, Chapter T1.111.8. Telcordia Technologies serves as the agent for point code assignments. Requests for such assignments can be made via a request form available through the Telcordia Routing Administrating group in Telcordia ([www.trainfo.com](http://www.trainfo.com)). If a company has been assigned numbers at the network or cluster level, cluster and network assignments are managed internally by that company. In all cases, the mapping of a point code to a specific network element is managed by the individual company directly.

To be added at a later date:

500 NPA NXX Assignments  
900 NPA NXX Assignments  
Country Codes  
USOC

## INDUSTRY TRAINING/WORKSHOPS

This section identifies available training that is specifically related to the content and purpose of this document that is provided directly by the organizations involved. Numerous companies and organizations provide telecommunications training from many perspectives.

### COMMON LANGUAGE

The Common Language Products Business Unit of Telcordia Technologies offers support-level licensees training for each of their code sets at its training center in Piscataway, NJ. Licensees should contact their Customer Account Manager to obtain training dates and for registration. Any customers may obtain training in the CLLI code set through the contacts listed under “education center/training and certification” at [www.commonlanguage.com](http://www.commonlanguage.com).

### NECA

Each year, NECA provides training on interstate pooling, revenue distribution, tariffs, average schedules, universal service accounting rules and other topics. Check the NECA website ([www.neca.org](http://www.neca.org)) for the training schedule.

### TELCORDIA ROUTING ADMINISTRATION (TRA) WORKSHOP

Provides an overview of the industry forums that are pertinent to TRA data processes and information flow. Specifically relates the COCAG process and data flow into TRA database (BIRRDS). Provides basic review of routing, LNP routing, and rating. Reviews the Telcordia LERG Routing Guide in detail relative to data elements, format, and data interactions among files. Discusses current industry issues that relate to assignment of NXXs and TRA data. Reviews and discusses NPA Relief from the data perspective. Schedule (dates, locations) of workshops as well as additional information is at [www.trainfo.com](http://www.trainfo.com) (workshops).

In addition, BIRRDS training (an overview of the data input processes and capabilities of these systems) is provided. This is restricted to those companies performing direct data entry (i.e., AOCNs). These are scheduled in the same week as the workshop described above.

This page intentionally left blank.

## TELCORDIA ROUTING ADMINISTRATION (TRA)

### OVERVIEW

Telcordia Routing Administration (TRA) is a set of Telcordia services and products surrounding a telecommunications process that centrally collects and disseminates pertinent routing and rating information within the industry and to other parties who may request the data.

The data dissemination process is via various output “products and services”. These are identified in the TRA Catalog of Product and Services.

TRA, as an industry neutral process, requires that all companies follow the same available processes as any other company relative to data input and in the ordering and billing for output products and services.

### DATA COLLECTION

The data collection process involves companies who have chosen to be administrators of the data in the underlying databases. These companies are often identified by what is known as Administrative Operating Company Numbers (AOCNs) (see AOCN section). These companies administer their own data and/or data for other companies for which they have established working relationships.

The specific databases involved are the Telcordia Business Integrated Routing and Rating Database System (BIRRRDS), the Telcordia LIDB Access Support system (LASS), and the Telcordia Calling Name Access Support System (CNSS).

The data collection process is accomplished via TRA Fair Share Plan agreements (see AOCN section).

### DATA DISSEMINATION

The data dissemination process is via various output “products and services”. The principal outputs of these databases are listed below. Additional outputs and additional specific information regarding those output listed below (e.g., issuance schedule, licensing fees, etc.) can be found at [www.trainfo.com](http://www.trainfo.com).

<p><b>Telcordia LERG Routing Guide</b></p>	<p>The Telcordia LERG Routing Guide (LERG) is an output of the Telcordia Business Integrated Routing and Rating Database System (BIRRDs). The LERG is essentially considered an output in support of intercompany routing. Routing information supports new NPA NXX openings (as driven by the CO Code Administration process and by Area Code (NPA) splits). Routing information includes identifying switching information relative to a given CO Code (NXX) as well as switch-to-switch relationships needed in the routing of calls. Note that information in the LERG does not negate the need for establishing appropriate interconnection agreements (see Interconnection Agreements section). In addition, specific company to company interconnection agreements may supercede generic information that is provided via the LERG.</p>
<p><b>Telcordia TPM Data Source</b></p>	<p>The Telcordia TPM Data Source is an output of the Telcordia Business Integrated Routing and Rating Database System (BIRRDs). The TPM is used in support of rating calls and in some billing systems. Rates themselves are not part of the TPM. Rating information supports new NPA NXX openings (as driven by the CO Code Administration process and by Area Code (NPA) splits). Rate Center V&amp;H coordinates, time zone information, a "place name" used in many billing systems, and Revenue Accounting Office information (see RAO section) are among the elements included in the TPM.</p>
<p><b>Telcordia LARG</b></p>	<p>The Telcordia LIDB Access Routing Guide (LARG) is a source for Line Information Database (LIDB) access routing data used for administering and maintaining STP Global Title Translations (GTTs). It identifies the responsible signaling network control center, the intra-network LIDB data, the inter-network route effective date, and the capability code or pseudo point code. This provides routing information necessary to route an inquiry to the correct LIDB for the validation of calling cards and other Alternate Billing Services (ABS).</p>
<p><b>Telcordia CNARG</b></p>	<p>The Telcordia Calling Name Access Routing Guide (CNARG) is a single source for interconnection to various database points (e.g., LIDBs) that contain subscriber Calling Name information. CNARG data can be used to administer and maintain STP GTTs to route to points that contain Calling Name data.</p>

---

# WIRELESS

## OVERVIEW

In conjunction with the 1983 AT&T divestiture (the breakup of the 22 regulated telephone companies of the Bell System on December 31, 1983) the FCC awarded two cellular licenses to each market (roughly two per market/city). These were called "A" market licenses and "B" market licenses. The local landline or wireline providers (e.g., the Regional Bell Companies (RBOCs)) received priority for the "B" licenses in each market.

To assign the "A" market license, the FCC accepted applications. Originally, most of the "A" licenses were awarded to Radio Common Carriers (RCCs). New "A" market licenses were awarded by lottery to non-local landline or non-wireline companies. No single company could hold both the "A" and "B" licenses for a particular market.

The Telecommunications Act of 1996 provided for sweeping telecommunication reform. Within that bill were certain wireless provisions that directly benefited the wireless industry. Wireless carriers were allowed to offer long-distance service. Wireless carriers were given permission to collaborate with manufacturing of telecommunications equipment to further technology development.

Because of joint venture agreements, companies serve their customers under different brand names in different geographical regions.

Most cellular systems today use digital switches. However, when you talk on a cellular telephone, the sound of your voice may be transmitted via an analog signal. The trend is toward digital signal transmission. The industry trend is toward continued use of cellular telephones. Cellular growth continues to outpace expectations due to increased accessibility and productivity, reduced cost and data applications.

The FCC controls the use of radio frequency spectrum used to transmit cellular signals and grants licenses to build and operate cellular systems. To do business, a carrier must be licensed by the FCC.

In addition to being licensed in either an "A" or a "B" market, cellular carriers must also be licensed to operate within a particular service area. The Cellular Geographic Service Area (CGSA) defines the area in which the cellular carrier is licensed to provide cellular service. To assist in defining CGSA the federal government uses two statistical definitions: Metropolitan Statistical Area (MSA) and Rural Statistical Area (RSA).

MSA refers to a Specific City or metropolitan area, which functions as the Anchor City for the CGSA it serves. A particular MSA, such as Los Angeles, refers to the entire region that is served by the Los Angeles market - not the just the city of Los Angeles. The designated MSAs in the U. S. define territories that, in January 2000, serve 77% of the U. S. Population. MSAs generally have multiple cell sites.

RSA refers to a number of smaller cities or a specific geographic corridor within a state. RSA boundaries follow county lines. RSAs define cellular territories that, in January 2000, serve 23% of the U.S. Population. Many of the RSAs are located in states like Colorado and Idaho that have large rural and remote areas. RSAs generally have only one cell site.

As in the wireline arena, interconnection agreements and other facility requirements are necessary in order to provide service in a specific area. Check with the local Telephone Company in the area in which you are doing business to make sure you have provided all of the necessary agreements and requirements to make your NXX work.

## **WIRELESS VS. WIRELINE**

This section of this document attempts to address certain unique aspects of the status and/or procedures associated with being a wireless service provider. Wireless carriers, also known as Commercial Mobile Radio Service (CMRS) providers are generally understood as a specific segment of the telecommunications industry, for example, as opposed to transitional wireline based carriers. Historically, wireless services are those often defined as cellular, radio, paging (beepers), and Public Communications Services (PCS).

However, much of the processes addressed in other sections of this document, also apply to wireless carriers. For example, procedures to obtain an NPA NXX are essentially the same, as it is to obtain a Company Code, and other pertinent data that is address in this document. In some cases the specific paperwork needed or the resulting data elements provided may be unique to wireless, but the basic processes apply across-the-board.

## **LOCAL NUMBER PORTABILITY - WIRELESS**

The FCC established 2 deadlines to support number portability by CMRS providers (including cellular and broadband PCS carriers).

By the first deadline they had to be able to provider call delivery to a ported number. Providers must have the capability to obtain routing information, either by querying the appropriate database themselves or by making arrangements with other carriers that are capable of performing database queries, so that they can deliver calls from their networks to any party that has retained its number after switching from one telecommunications carrier to another.

CMRS carriers have received forbearance until November 24, 2002 to participate in service provider portability. At that time providers must support a long-term database method for number portability, including support of roaming to a ported number, that complies with the performance criteria established by the FCC. Local number portability must be supported between landline - landline carriers, wireless - landline carriers, and wireless - wireless carriers.

## **SYSTEM IDENTIFICATION – SID**

The System Identification Number (SID) is a 5-digit number stored in the mobile station and is used to identify the mobile station's home system in communications between the mobile and the base station. SIDs are assigned by the FCC.

SID assignments for the United States and its territories range from 00001 to 02094. SIDs are also used to associate roaming billing records for roamer calls and charges.

## **BILLING IDENTIFICATION – BID**

BIDs are codes used to track smaller geographic areas and/or billing information as devised/created by engineers. BIDs are coordinated, administered, and sold by the CIBERNET company. The SID or the BID is used in various parts of billing systems. Many billing systems use them interchangeably, hence the term SID BID. The SID BIDs are located within the switch and the customer's phone and the term SID BID is used to define a communication service area.

## **FCC DATA ON WIRELESS**

The FCC maintains a database for all cellular licensees. The database includes information for the various cell sites associated with each cellular system. While the database may include all of the sites associated with a particular cellular system, the FCC's rules only require licensees to provide information for those cell sites that make up the outer boundary of the cellular system

Information regarding cell sites associated with a particular cellular system can be obtained by accessing the FCC's data base from the Wireless home page at the FCC website, then click on Search Databases, then click on Search Wireless Databases Online, which bring up the GUNMEN program. Then choose state/county. You must choose a service type, use CL for cellular and CW for PCS broadband.

## **APPLYING FOR A CELLULAR LICENSE**

The FCC has extensive information on their website regarding Phase I and Phase II processes for applying for a cellular license. It is well defined at [www.fcc.gov/wtb/cellular/cellfaq.html](http://www.fcc.gov/wtb/cellular/cellfaq.html)

This page intentionally left blank.

# TROUBLESHOOTING

## OVERVIEW

Due to the numerous factors that are involved in establishing a call through the Public Switch Telephone Network (PSTN), failures of various types will undoubtedly occur. Although major network failures are rare due to the precautions, backups, and the extent of efforts placed in preventing them, the failure of an individual call is relatively more common.

## CALL COMPLETION FAILURE SITUATIONS (I.E., BLOCKED CALLS)

Determining Root Causes:

When a call completion trouble report is received, it may be the “called” party who reports that they “cannot be called.” Sometimes they will only know the city from which the call was placed. Even when the trouble report is received from the “calling” party (the person who actually placed the call and experienced the failure), the information obtained is often not specific enough to allow proper analysis of the problem.

For all call failures, it is critical to identify the root cause. This will allow appropriate action to be taken to correct the problem at its source. Unless this is done, failures will continue to occur.

In order to investigate call completion trouble reports effectively, it is necessary that detailed information be obtained to direct investigative efforts in the most productive manner.

Those receiving initial trouble reports should also realize that:

- the reporting party, especially if a subscriber, may not know the intricacies of routing a call or what pertinent information may be needed for assessing the situation.
- the “problem” area may well involve another company (than the one to whom the trouble was reported) in whole or part.

Potential points where a call failure may occur:

Customer premise/location equipment (originating end)

- Hardware problems with telephone sets, Private Branch Exchanges (PBXs), coin telephones, etc.
- Software problems (e.g., PBXs, smart phone sets, etc.) where specific types of calls (e.g., Certain NPAs, NXXs, or line numbers) may be blocked from being originated; tables may need to be updated (e.g., identification of new Area Codes)

Transmission path from Customer to first switch in network:

- This is not usually a problem area unless no calls at all can be completed.

Switch software issues on originating call

- Possible translations problems at the originating switch
- Customer directed blocks (e.g., on placement of 900 calls, etc.)
- Possible hardware problems at the originating switch

Other carrier issues:

- Any carrier involved in “processing” the call up to and including the final terminating switching point may have hardware and/or software issues as described above.
- Network congestion, for whatever reason may also be an issue.

Customer premise/location (terminating end):

- Possible problem areas as previously stated for the originating end can also occur at the terminating end. This includes software controls at the terminating end (e.g., blocks on calls for which originating ANI is unknown, etc.)

## **RESOLUTION PROCESSES:**

General:

- Obtain call failure details from the party experiencing the call failure. This includes the calling and called line numbers.
- If possible, determine whether calls to the NPA itself are blocked (possible PBX or switch issue) or whether just the line being called.
- If possible, determine if the call can be completed from a different originating number (perhaps via different switch).
- Verify that internal switch translations are routing the call correctly for any switches for which your company may be responsible for or interacts with.
- Confirm that all local and tandem interconnection agreements are in-place.
- Refer failure details to affected interconnection company/companies if necessary.

Investigation Checklist -

It is recommended that telecommunications service providers utilize the checklist below when investigating call completion trouble reports. Each item listed provides a means to determine the possible root cause of call failures.

<p>Code Holders Actions To Determine Root Cause</p> <p>Obtain call failure details from the party reporting the trouble. Specific questions provided on “Trouble Reports – Call Failure Questions” table. Direct-customer-contact groups should be advised of necessity to obtain this data.</p> <p>Verify that the call is being routed correctly within own internal network. Called NXX code opened in originating- and/or terminating-area switches? Proper routing translations entered into switches?</p> <p>Confirm that all local and tandem interconnection agreements are in-place. For all “independent” company switches subtending the interconnect tandem(s). For all interconnect tandem(s) in the originating and terminating call failure areas.</p> <p>Confirm that interexchange carrier interconnection agreements are in-place, if required. Traffic to/from RBOC switches being transported across LATA boundaries?</p> <p>Verify that routing and rating data has been entered into RDBS and BRIDS. At least 45 calendar days prior to effective date? Is data in RDBS and LERG complete and accurate?</p> <p>If call failure report is from the calling party (the one who cannot complete the call)... Contact interconnecting ILEC(s) for the originating NPA. Provide call failure details. Provide results of internal investigation. Request ILEC(s) investigate their network(s).</p> <p>If call failure report is from the called party (the one who cannot be reached)... Contact NANPA CO Code Administrator. Provide call failure details. Provide results of internal investigation. Request referral to distant region’s contact for network investigation.</p>
---



## ATTACHMENTS

### Web Sites:

CNA	<a href="http://www.cnac.ca">www.cnac.ca</a>
FCC	<a href="http://www.fcc.gov">www.fcc.gov</a>
NANC	<a href="http://www.fcc.gov/ccb/nanc">www.fcc.gov/ccb/nanc</a>
NANPA	<a href="http://www.nanpa.com">www.nanpa.com</a>
NARUC	<a href="http://www.naruc.org">www.naruc.org</a>
NECA	<a href="http://www.neca.org">www.neca.org</a>
NPAC	<a href="http://www.npac.com">www.npac.com</a>
PCIA	<a href="http://www.pcia.com">www.pcia.com</a>
TRA	<a href="http://www.trainfo.com">www.trainfo.com</a>

## NEW NXX REQUIREMENTS CHECKLIST

Document/Code	Contact Organization	Assignment	Date Completed	Notes
Interconnection Agreement	All physically interconnecting companies			
Switch COMMON LANGUAGE	732-699-8859			
Operating Company Number (OCN)	NECA 800-228-8597 for Company Codes. Telcordia Routing Administration (TRA) 732-699-6700 if questions on existing OCNs			
AOCN	Self or contracted (contact TRA for list)			
Revenue Accounting Office (RAO)	RAO Administrator 732-699-5243			
Central Office Code Guidelines	<a href="http://www.atis.org">www.atis.org</a>			
CIC				
National Exchange Carrier Association	<a href="http://www.neca.org">www.neca.org</a>			
TRA Products	<a href="http://www.trainfo.com">www.trainfo.com</a>			

## **GLOSSARY - TBA**

This page intentionally left blank.

## **ACRONYM LIST - TBA**